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Prioritätsbescheinigung über die Einreichung einer Patentanmeldung

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Bezeichnung:

Verfahren zum Befördern von Postsendungen

IPC:

G 06 F, B 07 C

Die angehefteten Stücke sind eine richtige und genaue Wiedergabe der ursprünglichen Unterlagen dieser Patentanmeldung.

> München, den 4. September 2003 **Deutsches Patent- und Markenamt** Der Präsident

Im Auftrag

A 9161 03/00 EDV-L

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13.08.2002

Verfahren zum Befördern von Postsendungen

Die Erfindung betrifft ein Verfahren zum Befördern von Paketsendungen.

Ein gattungsgemäßes Verfahren ist aus der Französischen Patentanmeldung FR 2 563 987 bekannt. Bei diesem bekannten Verfahren werden Postsendungen zu einer elektronischen Paketfachanlage transportiert. Die Empfänger der Postsendung können sich gegenüber der elektronischen Paketfachanlage als zugangsberechtigt identifizieren und das Paket entnehmen.

Der Erfindung liegt die Aufgabe zugrunde, das bekannte Verfahren so weiter zu entwickeln, dass eine bessere Auslastung der Kapazitäten der elektronischen Paketfachanlage erzielt wird.

Erfindungsgemäß wird diese Aufgabe dadurch gelöst, dass die elektronische Paketfachanlage bei Einlieferung einer
Postsendung eine die Postsendung identifizierende
Identifikationsangabe erfasst und/oder die
Identifikationsangabe erzeugt, und dass die
Identifikationsangabe bei nachfolgenden Bearbeitungsvorgängen der Postsendungen in einer Transportdaten speichernden
Datenverarbeitungskomponente erfasst und/oder erfasst und ausgewertet wird.

Die erfindungsgemäße Durchführung des Verfahrens, beziehungsweise die erfindungsgemäße Ausgestaltung der elektronischen Paketfachanlage ermöglichen es, die elektronische Paketfachanlage für eine Annahme von Postsendungen und für eine nachfolgende Weiterleitung der Postsendungen an Empfänger außerhalb des Einzugsbereiches der elektronischen Paketfachanlage einzusetzen.

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Dies bedeutet insbesondere, dass die elektronische Paketfachanlage sowohl für die Auslieferung von Postsendungen genutzt werden kann, jedoch gleichermaßen auch zu einer Entgegennahme der Postsendungen dient. Hierdurch werden Lagerkapazitäten der elektronischen Paketfachanlage ebenso wie der Transportraum von Transportmitteln, beispielsweise Fahrzeugen, zur Beförderung der Postsendungen effektiver ausgenutzt.

Vorzugsweise entnimmt ein Zusteller aus der elektronischen Paketfachanlage zunächst dort für den weiteren Transport innerhalb eines Logistiksystems bestimmte Postsendungen und stellt anschließend in die elektronische Paketfachanlage solche Postsendungen ein, die in dem Bereich der elektronischen Paketfachanlage nachfolgend von Benutzern der elektronischen Paketfachanlage abgeholt werden können.

Vorzugsweise ermöglicht die Erfindung sowohl eine möglichst flexible Belegung der Fächer, als auch eine Ausnutzung des Umstandes, dass sich die zur Verfügung stehende Lagerkapazität der elektronischen Paketfachanlage dadurch erhöht, dass Postsendungen für einen weiteren Transport in dem Logistiksystem entnommen wurden.

Eine besonders bevorzugte Ausführungsform der Erfindung zeichnet sich dadurch aus, dass die Identifikationsangabe sowohl bei einer Einlieferung der Postsendung als auch bei einer Entnahme der Postsendung aus der elektronischen Paketfachanlage erfasst wird.

Eine missbräuchliche Nutzung der elektronischen Paketfachanlage wird verhindert, indem nur solche Postsendungen in einen nachfolgenden Beförderungslauf gegeben werden, die ordnungsgemäß erfasst wurden.

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In einem besonders bevorzugten Ausführungsbeispiel der Erfindung verfügen alle Postsendungen bereits vor einer Einlieferung in der Paketfachanlage den Identifikationscode und/oder den Adressaufkleber. Dies ist insbesondere bei Retourensendungen der Fall.

Eine besonders bevorzugte Ausführungsform der Erfindung zeichnet sich dadurch aus, dass für die Übermittlung der Ereignisinformation über das Einliefern und/oder Abholen von Postsendungen das gleiche Mittel eingesetzt werden kann, das auch für die Übermittlung der Identifikationsangabe eingesetzt werden kann.

Beide Varianten haben spezifische Vorteile. Beispielsweise ermöglicht die gemeinsame Übermittlung der Information über das Abholen, beziehungsweise das Einliefern der Postsendungen und die gleichzeitige Übermittlung der Identifikationsangabe eine umfassende Sendungsverfolgung.

- 20 Eine Kombination der verschiedenen Übermittlungsmittel führt sowohl zu einer möglichst hohen Entgeltsicherheit für das Versandunternehmen, welches das Logistiksystem betreibt als auch zu einer möglichst umfassenden Sendungsverfolgung.
- 25 Eine Kombination eignet sich neben Retouren auch für bereits frankierte Sendungen, wie z.B. Prepaid Paketprodukte. Möglich ist auch die Etablierung und Nutzung einer separaten Paketmarke zur Einlieferung von Paketen in ELEKTRONISCHE PAKETFACHANLAGEEN oder die Anpassung des derzeitigen 30 Entgeltmodells der Freeway-Paketmarke hin zu einer rein größenabhängigen Staffelung.

Bevorzugt ist die Annahme von frankierten Sendungen, insbesondere weil hier die Bedienung am Automaten relativ



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schnell abgeschlossen werden kann. Der Kunde muss nur das Label am Automaten einscannen.

Besonders vorteilhaft ist es, wenn der Kunde mit Paketannahmefunktion die Möglichkeit hat, einen Versender innerhalb des Konzerns Deutsche Post World Net auszuwählen. Zum Beispiel kann der Kunde nach erfolgreicher Einstellung der Sendung vorzugweise zwischen mehreren Zustellungsarten wählen. Dabei kann beispielsweise eine , normale Zustellung' und eine , Express Zustellung' zur Auswahl stehen. Wählt der Kunde eine , Express Zustellung' wird er gegebenenfalls dazu 10 aufgefordert, einen entsprechenden zusätzlichen Betrag per EC- oder GeldKarte zu zahlen. Der Ablauf im Falle einer Express-Zustellung kann dann beispielsweise so aussehen, dass das Elektronische Paketfachanlage-System eine Benachrichtigung (per SMS/Email) mit den erforderlichen 15 Informationen (wo ist die Sendung abzuholen, bis wann muss die Sendung wohin geliefert werden, ...) an den Logistikpartner auslöst. So kann im Falle von Express-Zustellungen eine kurzfristige Abholung der Sendung gewährleistet werden. 20

Weitere Vorteile, Besonderheiten und zweckmäßige Weiterbildungen der Erfindung ergeben sich aus den Unteransprüchen und der nachfolgenden Darstellung bevorzugter Ausführungsbeispiele anhand der Zeichnungen.

Von den Zeichnungen zeigt

Fig. 1 ein Blockdiagramm mit einer besonders bevorzugten Annahme von Paketen mit Identcode.

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Fig. 2 ein Blockdiagramm mit einer besonders bevorzugten Annahme von Paketen mit bestimmten Identcode und

P94848

29 kDa protein - Helicobacter pylori (Campylobacter pylori)

Q8RNU2

Heat shock protein B subunit (60 kDa chaperonin) (Protein Cpn60) (groEL protein) {GENE:HSPB} - Helicobacter pylori (Campylobacter pylori)

Q8RNU3

Heat shock protein A subunit (10 kDa chaperonin) (Protein Cpn10) (groES protein) {GENE:HSPA} - Helicobacter pylori (Campylobacter pylori)

Q8RNU7

20 kDa membrane-associated lipoprotein (Membrane-associated lipoprotein Lpp20) (GENE:LPP20) - Helicobacter pylori (Campylobacter pylori)

Q935I8-

26,000 kba protein (Fragment) - Helicobacter pylori (Campylobacter pylori)

Q9R2X6

60 kDa major heat shock protein (Fragment) - Helicobacter pylori (Campylobacter pylori)

Q9R4J2

31 kDa major NONSELECTIVE porin protein (Fragment) - Helicobacter pylori (Campylobacter pylori)

Q9R4W4

25 kDa major heat shock protein (Fragment) - Helicobacter pylori (Campylobacter pylori)

Q9R4W5

30 kDa major heat shock protein (Fragment) - Helicobacter pylori (Campylobacter pylori)

Q9R4W6

56 kDa major heat shock protein (Fragment) - Helicobacter pylori (Gampylobacter pylori)

Q9R4W7

66 kDa major heat shock protein (Fragment) - Helicobacter pylori (Campylobacter pylori)

Q9R510

60 kDa heat shock protein/groEL homolog (Fragment) - Helicobacter pylori (Campylobacter pylori)

Q9	R5	L 5
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HSP62=62 kDa urease-associated heat shock protein (Fragment) - Helicobacter pylori (Campylobacter pylori)

Q9X749

HopV protein precursor (27 kDa outer membrane protein) {GENE:HOPV OR OMP27} - Helicobacter pylori (Campylobacter pylori)

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Swiss-Prot Release 42.1 of 24-Oct-2003 TrEMBL Release 25.1 of 24-Oct-2003

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AMIE_HELPJ (Q9ZME1)

Aliphatic amidase (EC 3.5.1.4) (Acylamide amidohydrolase). {GENE: AMIE 37 KDC OR JHP0279} - Helicobacter pylori J99 (Campylobacter pylori J99)

AMIE_HELPY (025067)

Aliphatic amidase (EC 3.5.1.4) (Acylamide amidohydrolase). {GENE: AMIE 37 Kdc

OR HP0294} - Helicobacter pylori (Campylobacter pylori)

AMIF_HELPJ (Q9ZJY8)

Formamidase (EC 3.5.1.49) (Formamide amidohydrolase). {GENE: AMIF OR 37)kda JHP1159} - Helicobacter pylori J99 (Campylobacter pylori J99)

AMIF HELPY (025836)

Formamidase (EC 3.5.1.49) (Formamide amidohydrolase). {GENE: AMIF OR HP1238} - Helicobacter pylori (Campylobacter pylori)

AMPA HELPJ (Q9ZLR1)

Cytosol anthopeptidase (EC 3.4.11.1) (Leucine aminopeptidase) (LAP) (Leucyl aminopeptidase). {GENE: PEPA OR JHP0517} - Helicobacter pylori J99 (Campylobacter pylori J99)

AMPA_HELPY (025294)

Cytosol agrinopeptidase (EC 3.4.11.1) (Leucine aminopeptidase) (LAP) (Leucyl aminopeptidase). {GENE: PEPA OR HP0570} - Helicobacter pylori (Campylobacter pylori)

AMPM_HELPJ (Q9ZJTO)

Methionine aminopeptidase (EC 3.4.11.18) (MAP) (Peptidase M). {GENE: MAP OR JHP1219} - Helicobacter pylori J99 (Campylobacter pylori J99)

AMPM_HELPX (P56102)

Methionine antinopeptidase (EC 3.4.11.18) (MAP) (Peptidase M). {GENE: MAP OR HP1299} - Helicobacter pylori (Campylobacter pylori)

AN36_HELPJ (Q9ZJD1)

36 kDa antigen. {GENE: JHP1381} - Helicobacter pylori J99 (Campylobacter pylori J99)



AN36_HELPY (P94851)

36 kDa antigen. {GENE: HP1488} - Helicobacter pylori (Campylobacter pylori)



BIOA_HELPJ (Q9ZKM5)

Adenosylmethionine-8-amino-7-oxononanoate aminotransferase (EC 2.6.1.62) (7,8-diamino-pelargonic acid aminotransferase) (DAPA aminotransferase). {GENE: BIOA OR JHP0910} - Helicobacter pylori J99 (Campylobacter pylori J99)



BIOA_HELPY (025627)

Adenosylmethionine-8-amino-7-oxononanoate aminotransferase (EC 2.6.1.62) (7,8-diamino-pelargonic acid aminotransferase) (DAPA



aminotransferase). {GENE: BIOA OR HP0976} - Helicobacter pylori (Campylobacter pylori)

CAGA_HELPJ (Q9ZLT1)

Cytotoxicity associated immunodominant antigen (120 kDa protein) (CAG pathogenicity island protein 26). {GENE: CAGA OR CAI OR CAG26 OR JHP0495} - Helicobacter pylori J99 (Campylobacter pylori J99)

CAGA_HELPY (P55980)

Cytotoxicity associated immunodominant antigen (120 kDa protein) (CAG pathogenieity island protein 26). {GENE: CAGA OR CAI OR CAG26 OR HP0547} - Helicobacter pylori (Campylobacter pylori)

CDSA_HELPJ (Q9ZML7)

Phosphatidate cytidylyltransferase (EC 2.7.7.41) (CDP-diglyceride synthetase) (CDP-diglyceride pyrophosphorylase) (CDP-diacylglycerol synthase) (CDS) (CTP:phosphatidate cytidylyltransferase) (CDP-DAG synthase) (CDP-DG synthetase). {GENE: CDSA OR JHP0201} - Helicobacter pylori J99 (Campylobacter pylori J99)

CDSA_HELPY (025004)

Phosphatidate cytidylyltransferase (EC 2.7.7.41) (CDP-diglyceride synthetase) (CDP-diglyceride pyrophosphorylase) (CDP-diacylglycerol synthase) (CDS) (CTP:phosphatidate cytidylyltransferase) (CDP-DAG synthase) (CDP-DG synthetase). {GENE: CDSA OR HP0215} - Helicobacter pylori (Campylobacter pylori)

CGA1_HELPY (\$80200)

Cytotexisity associated immunodominant antigen (120 kDa protein). {GENE: CAGA OR CAI} - Helicobacter pylori (Campylobacter pylori)

CGA2 HELPY (P55746)

Cytofoxicity associated immunodominant antigen (120 kDa protein). {GENE: CAGA OR CAI} - Helicobacter pylori (Campylobacter pylori)

CH10_RELPY (P48225)

10 kDa chaperonin (Protein Cpn10) (groES protein) (Heat shock protein 10). {GENE: GROS OR GROES OR MOPB OR HSP10 OR HSPA OR HP0011 OR JHP0009} - Helicobacter pylori (Campylobacter pylori), Helicobacter pylori J99 (Campylobacter pylori J99)

CH60_HELPJ (Q9ZN50)

60 kDa chaperonin (Protein Cpn60) (groEL protein) (Heat shock protein

60). {GENE: GROL OR MOPA OR GROEL OR HSP60 OR HSPB OR JHP0008} - Helicobacter pylori J99 (Campylobacter pylori J99)

CH60_HELPY (P42383)

60 kDa chaperonin (Protein Cpn60) (groEL protein) (Heat shock protein 60). {GENE: GROL OR MOPA OR GROEL OR HSP60 OR HSPB OR HP0010} - Helicobacter pylori (Campylobacter pylori)

CLPP_HELPJ (Q9ZL50)

ATP-dependent Clp protease proteolytic subunit (EC 3.4.21.92) (Endopeptidase Clp). {GENE: CLPP OR JHP0730} - Helicobacter pylori J99 (Campylobacter pylori J99)

CLPP_HELPY (P56156)

ATP-dependent Clp protease proteolytic subunit (EC 3.4.21.92) (Endopeptidase Clp). {GENE: CLPP OR HP0794} - Helicobacter pylori (Campylobacter pylori)

CLPS_HELPJ (Q9ZN32)

ATP-dependent Clp protease adaptor protein clpS. {GENE: CLPS OR JHP0028} - Helicobacter pylori J99 (Campylobacter pylori J99)

<u>CLPS_HELPY</u> (**P56066**)

ATP-dependent Clp protease adaptor protein clpS. {GENE: CLPS OR HP0032} - Helicobacter pylori (Campylobacter pylori)

DAPA_HELPJ (Q9ZM13)

Dihydrodipicolinate synthase (EC 4.2.1.52) (DHDPS). {GENE: DAPA OR JHP0410} - Helicobacter pylori J99 (Campylobacter pylori J99)

DAPA_HELPY (**025657**)

Dihydrodipicolinate synthase (EC 4.2.1.52) (DHDPS). {GENE: DAPA OR HP1013} - Helicobacter pylori (Campylobacter pylori)

DAPB_HELPJ (Q9ZLW6)

Dihydrodipicolinate reductase (EC 1.3.1.26) (DHPR). {GENE: DAPB OR JHP0460} - Helicobacter pylori J99 (Campylobacter pylori J99)

DAPB_HELPY (P94844)

Dihydrodipicolinate reductase (EC 1.3.1.26) (DHPR). {GENE: DAPB OR HP0510} - Helicobacter pylori (Campylobacter pylori)

DAPF_HELPJ (Q9ZLR5)

Diaminopimelate epimerase (EC 5.1.1.7) (DAP epimerase). {GENE: DAPF OR JHP0513} - Helicobacter pylori J99 (Campylobacter pylori J99)

DAPF HELPY (025290)

Diaminopimelate epimerase (EC 5.1.1.7) (DAP epimerase). {GENE: DAPF OR HP0566} - Helicobacter pylori (Campylobacter pylori)

DCDA_HELPJ (Q9ZME5)

Diaminopimelate decarboxylase (EC 4.1.1.20) (DAP decarboxylase). {GENE: LYSA OR JHP0275} - Helicobacter pylori J99 (Campylobacter pylori J99)

DCDA_HELPY (P56129)

Diaminopimelate decarboxylase (EC 4.1.1.20) (DAP decarboxylase). {GENE: LYSA OR HP0290} - Helicobacter pylori (Campylobacter pylori)

DNAK HELPJ (Q9ZMW4)

Chaperone protein dnak (Heat shock protein 70) (Heat shock 70 kDa protein) (NSP70). {GENE: DNAK OR JHP0101} - Helicobacter pylori J99 (Campylobacter pylori J99)

DNAK_HELPY (P55994)

Chaperone protein dnak (Heat shock protein 70) (Heat shock 70 kDa protein) (HSP70). {GENE: DNAK OR HP0109} - Helicobacter pylori)

FLAV_HELPJ (Q9ZK53)

Flavodoxin. {GENE: FLDA OR JHP1088} - Helicobacter pylori J99 (Campylobacter pylori J99)

FLAV_HELPY (025776)

Flavodoxin. {GENE: FLDA OR HP1161} - Helicobacter pylori (Campylobacter pylori)

FRDA_HELPJ (Q9ZMPO)

Fumarate reductase flavoprotein subunit (EC 1.3.99.1). {GENE: FRDA OR JHP0178} - Helicobacter pylori J99 (Campylobacter pylori J99)

FRDA_HELPY (006913)

Fumarate reductase flavoprotein subunit (EC 1.3.99.1). {GENE: FRDA OR HP0192} - Helicobacter pylori (Campylobacter pylori)

GCP_HELPJ (Q9ZJ27)

Probable O-sialoglycoprotein endopeptidase (EC 3.4.24.57) (Glycoprotease). {GENE: GCP OR JHP1491} - Helicobacter pylori J99 (Campylobacter pylori J99)

GCP_HELPY (P55996)

Probable O-sialoglycoprotein endopeptidase (EC 3.4.24.57) (Glycoprotease).

{GENE: GCP OR HP1584} - Helicobacter pylori (Campylobacter pylori)

GIDA_HELPJ (Q9ZML9)

Glucose inhibited division protein A. {GENE: GIDA OR JHP0199} - Helicobacter pylori J99 (Campylobacter pylori J99)

GIDA_HELPY (P56138)

Glucose inhibited division protein A. {GENE: GIDA OR HP0213} - Helicobacter pylori (Campylobacter pylori)

GPDA_HELPJ (Q9ZKPO)

Glycerol-3-phosphate dehydrogenase [NAD(P)+] (EC 1.1.1.94)

(NAD(P)H-dependent glycerol-3-phosphate dehydrogenase). {GENE: GPSA OR JHP0895} - Helicobacter pylori J99 (Campylobacter pylori J99)

<u>GPDA_HELPY</u> (**025614**)

Glycerol-3-phosphate dehydrogenase [NAD(P)+] (EC 1.1.1.94) (NAD(P)H-dependent glycerol-3-phosphate dehydrogenase). {GENE: GPSA OR HP0961} - Helicobacter pylori (Campylobacter pylori)

HCPA_HELPJ (Q9ZMM1)

Beta-lactamase hcpA precursor (EC 3.5.2.6) (Cysteine-rich 28 kDa protein). {GENE: HCPA OR JHP0197} - Helicobacter pylori J99 (Campylobacter pylori J99)

HCPA_HELPY (025001)

Beta-lactamase hcpA precursor (EC 3.5.2.6) (Cysteine-rich 28 kDa protein). {GENE: HCPA OR HP0211} - Helicobacter pylori (Campylobacter pylori)

HEMN_HELPJ (Q9ZLHO)

Oxygen-independent coproporphyrinogen III oxidase (EC 1.-.-.) (Coproporphyrinogenase) (Coprogen oxidase). {GENE: HEMN OR JHP0610} - Helicobacter pylori J99 (Campylobacter pylori J99)

HEMN_HELPY (025376)

Oxygen-independent coproporphyrinogen III oxidase (EC 1.-.-.) (Coproporphyrinogenase) (Coprogen oxidase). {GENE: HEMN OR HP0665} - Helicobacter pylori (Campylobacter pylori)

HMCT_HELPJ (Q9ZL53)

Cadmium, zinc and cobalt transporting ATPase (EC 3.6.3.3) (EC 3.6.3.5). {GENE: CADA OR JHP0727} - Helicobacter pylori J99 (Campylobacter pylori J99)

<u>HMCT_HELPY</u> (Q59465)

Cadmium, zinc and cobalt transporting ATPase (EC 3.6.3.3) (EC 3.6.3.5). {GENE: CADA OR HP0791} - Helicobacter pylori (Campylobacter pylori)

KDGL_HELPJ (Q9ZLEO)

Diacylglycerol kinase (EC 2.7.1.107) (DAGK) (Diglyceride kinase) (DGK). {GENE: DGKA OR JHP0640} - Helicobacter pylori J99 (Campylobacter pylori J99)

KDGL_HELPY (P56411)

Diacylglycerol kinase (EC 2.7.1.107) (DAGK) (Diglyceride kinase) (DGK). {GENE: DGKA OR HP0700} - Helicobacter pylori (Campylobacter pylori)

LEP_HELPJ (Q9ZLQ5)

Signal peptidase I (EC 3.4.21.89) (SPase I) (Leader peptidase I). {GENE: LEPB OR JHP0523} - Helicobacter pylori J99 (Campylobacter pylori J99)

LEP_HELPY (025300)

Signal peptidase I (EC 3.4.21.89) (SPase I) (Leader peptidase I). {GENE: LEPB OR HP0576} - Helicobacter pylori (Campylobacter pylori)

LSPA_HELPJ (Q9ZMZ3)

Lipoprotein signal peptidase (EC 3.4.23.36) (Prolipoprotein signal peptidase) (Signal peptidase II) (SPase II). {GENE: LSPA OR JHP0069} - Helicobacter pylori J99 (Campylobacter pylori J99)

LSPA_HELPY (P25178)

Lipoprotein signal peptidase (EC 3.4.23.36) (Prolipoprotein signal peptidase) (Signal peptidase II) (SPase II). {GENE: LSPA OR URED OR HP0074} - Helicobacter pylori (Campylobacter pylori)

MTN_HELPJ (Q9ZMY2)

MTA/SAH nucleosidase [Includes: 5'-methylthioadenosine nucleosidase (EC 3.2.2.16); S-adenosylhomocysteine nucleosidase (EC 3.2.2.9)]. {GENE: MTN OR PFS OR JHP0082} - Helicobacter pylori J99 (Campylobacter pylori J99)

MTN_HELPY (024915)

MTA/SAH nucleosidase [Includes: 5'-methylthioadenosine nucleosidase (EC 3.2.2.16); S-adenosylhomocysteine nucleosidase (EC 3.2.2.9)]. {GENE: MTN OR PFS OR HP0089} - Helicobacter pylori (Campylobacter pylori)

NADA_HELPJ (Q9ZJN1)

Quinolinate synthetase A. {GENE: NADA OR JHP1274} - Helicobacter pylori J99 (Campylobacter pylori J99)

NADA_HELPY (025910)

Quinolinate synthetase A. {GENE: NADA OR HP1356} - Helicobacter pylori (Campylobacter pylori)

PYRD_HELPJ (Q9ZM11)

Dihydroorotate dehydrogenase (EC 1.3.3.1) (Dihydroorotate oxidase) (DHOdehase) (DHODase) (DHOD). {GENE: PYRD OR JHP0412} - Helicobacter pylori J99 (Campylobacter pylori J99)

PYRD_HELPY (**025655**)

Dihydroorotate dehydrogenase (EC 1.3.3.1) (Dihydroorotate oxidase) (DHOdehase) (DHODase) (DHOD). {GENE: PYRD OR HP1011} - Helicobacter pylori (Campylobacter pylori)

PYRX_HELPJ (Q9ZMG9)

Probable dihydroorotase-like protein (Aspartate carbamoyltransferase 42 kDa non-catalytic chain). {GENE: PYRC' OR JHP0251} - Helicobacter pylori J99 (Campylobacter pylori J99)

PYRX_HELPY (025045)

Probable dihydroorotase-like protein (Aspartate carbamoyltransferase 42 kDa non-catalytic chain). {GENE: PYRC' OR HP0266} - Helicobacter pylori (Campylobacter pylori)

RADA_HELPJ (Q9ZMK9)

DNA repair protein radA homolog (DNA repair protein sms homolog). {GENE: RADA OR SMS OR JHP0209} - Helicobacter pylori J99 (Campylobacter pylori J99)

RADA_HELPY (P56148)

DNA repair protein radA homolog (DNA repair protein sms homolog). {GENE: RADA OR SMS OR HP0223} - Helicobacter pylori (Campylobacter pylori)

RIR1_HELPJ (Q9ZLF9)

Ribonucleoside-diphosphate reductase alpha chain (EC 1.17.4.1) (Ribonucleotide reductase). {GENE: NRDA OR JHP0621} - Helicobacter pylori J99 (Campylobacter pylori J99)

RIR1_HELPY (P55982)

Ribonucleoside-diphosphate reductase alpha chain (EC 1.17.4.1) (Ribonucleotide reductase). {GENE: NRDA OR HP0680} - Helicobacter pylori (Campylobacter pylori)

RODA_HELPJ (Q9ZLAO)

Rod shape-determining protein rodA. {GENE: MRDB OR RODA OR JHP0680} - Helicobacter pylori J99 (Campylobacter pylori J99)

RODA_HELPY (P56098)

Rod shape-determining protein rodA. {GENE: MRDB OR RODA OR HP0743} - Helicobacter pylori (Campylobacter pylori)

RUVA_HELPJ (Q9ZKW9)

Holliday junction DNA helicase ruvA. {GENE: RUVA OR JHP0815} - Helicobacter pylori J99 (Campylobacter pylori J99)

RUVA_HELPY (025549)

Holliday junction DNA helicase ruvA. {GENE: RUVA OR HP0883} - Helicobacter pylori (Campylobacter pylori)

RUVB_HELPJ (Q9ZM57)

Holliday junction DNA helicase ruvB. {GENE: RUVB OR JHP0366} - Helicobacter pylori J99 (Campylobacter pylori J99)

<u>RUVB_HELPY</u> (025699)

Holliday junction DNA helicase ruvB. {GENE: RUVB OR HP1059} - Helicobacter pylori (Campylobacter pylori)

RUVC_HELPJ (Q9ZKX3)

Crossover junction endodeoxyribonuclease ruvC (EC 3.1.22.4) (Holliday junction nuclease ruvC) (Holliday juction resolvase ruvC). {GENE: RUVC OR JHP0811} - Helicobacter pylori J99 (Campylobacter pylori J99)

RUVC_HELPY (025544)

Crossover junction endodeoxyribonuclease ruvC (EC 3.1.22.4) (Holliday junction nuclease ruvC) (Holliday juction resolvase ruvC). {GENE: RUVC OR HP0877} - Helicobacter pylori (Campylobacter pylori)

RUVX_HELPJ (Q9ZMA5)

Putative Holliday junction resolvase (EC 3.1.-.-). {GENE: JHP0317} - Helicobacter pylori J99 (Campylobacter pylori J99)

RUVX_HELPY (025101)

Putative Holliday junction resolvase (EC 3.1.-.-). {GENE: HP0334} - Helicobacter pylori (Campylobacter pylori)

SDHL_HELPJ (Q9ZMU7)

L-serine dehydratase (EC 4.3.1.17) (L-serine deaminase) (SDH) (L-SD). {GENE: SDAA OR JHP0120} - Helicobacter pylori J99 (Campylobacter

pylori J99)

SDHL_HELPY (**P56072**)

L-serine dehydratase (EC 4.3.1.17) (L-serine deaminase) (SDH) (L-SD). {GENE: SDAA OR HP0132} - Helicobacter pylori (Campylobacter pylori)

TPX_HELPJ (Q9ZKE7)

Probable thiol peroxidase (EC 1.11.1.-). {GENE: TPX OR JHP0991} - Helicobacter pylori J99 (Campylobacter pylori J99)

TPX_HELPY (025151)

Probable thiol peroxidase (EC 1.11.1.-). {GENE: TPX OR HP0390} - Helicobacter pylori (Campylobacter pylori)

TSAA_HELPJ (P56876)

Probable peroxiredoxin (26 kDa antigen). {GENE: TSAA OR JHP1471} - Helicobacter pylori J99 (Campylobacter pylori J99)

TSAA_HELPY (P21762)

Probable peroxiredoxin (26 kDa antigen). {GENE: TSAA OR HP1563} - Helicobacter pylori (Campylobacter pylori)

Search in TrEMBL: There are matches to 95 out of 1016356 entries

024946

Serine transporter (SDAC) {GENE:HP0133} - Helicobacter pylori (Campylobacter pylori)

024955

Cytochrome C oxidase, heme B and copper-binding subunit, membrane-bound (EC 1.9.3.1) (FIXN) {GENE:HP0144} - Helicobacter pylori (Campylobacter pylori)

024956

Cytochrome C oxidase, MONOHEME subunit, membrane-bound (FIXO) {GENE:HP0145} - Helicobacter pylori (Campylobacter pylori)

024957

CBB3-type cytochrome C oxidase subunit Q (CCOQ) {GENE:HP0146} - Helicobacter pylori (Campylobacter pylori)

024958

Cytochrome C oxidase, diheme subunit, membrane-bound (FIXP) {GENE: HP0147} - Helicobacter pylori (Campylobacter pylori)

025002

Succinyl-diaminopimelate desuccinylase (DAPE) {GENE:HP0212} - Helicobacter pylori (Campylobacter pylori)

025044

Cytochrome C biogenesis protein (CCDA) {GENE:HP0265} - Helicobacter pylori (Campylobacter pylori)

025143

Protoporphyrinogen oxidase (HEMK) {GENE:HP0381} - Helicobacter pylori (Campylobacter pylori)

025216

Oligoendopeptidase F (PEPF) {GENE:HP0470} - Helicobacter pylori (Campylobacter pylori)

025219

Molybdenum ABC transporter, periplasmic molybdate-binding protein (MODA) {GENE:HP0473} - Helicobacter pylori (Campylobacter pylori)

<u>025250</u>

Glycolate oxidase subunit (GLCD) {GENE:HP0509} - Helicobacter pylori (Campylobacter pylori)

025298

Galactosidase acetyltransferase (LACA) {GENE:HP0574} - Helicobacter pylori (Campylobacter pylori)

<u>025343</u>

Tetrahydrodipicolinate N-succinyltransferase (DAPD) {GENE:HP0626} - Helicobacter pylori (Campylobacter pylori)

025347

Modulator of drug activity (MDA66) {GENE:HP0630} - Helicobacter pylori (Campylobacter pylori)

025348

Quinone-reactive NI/FE hydrogenase, small subunit (HYDA) {GENE:HP0631} - Helicobacter pylori (Campylobacter pylori)

<u>025387</u>

Methylated-DNA--protein-cysteine methyltransferase (DAT1)

{GENE:HP0676} - Helicobacter pylori (Campylobacter pylori)

025399

Acetyl coenzyme A acetyltransferase (Thiolase) (FADA) {GENE:HP0690} - Helicobacter pylori (Campylobacter pylori)

025402

Hydantoin utilization protein A (HYUA) {GENE:HP0695} - Helicobacter pylori (Campylobacter pylori)

025403

N-METHYLHYDANTOINASE {GENE: HP0696} - Helicobacter pylori (Campylobacter pylori)

025464

N-acetylmuramoyl-L-alanine amidase (AMIA) {GENE:HP0772} - Helicobacter pylori (Campylobacter pylori)

<u>025596</u>

D-alanine glycine permease (DAGA) {GENE:HP0942} - Helicobacter pylori (Campylobacter pylori)

025729

2-keto-3-deoxy-6-phosphogluconate aldolase (EDA) {GENE:HP1099} - Helicobacter pylori (Campylobacter pylori)

025743

Gamma-glutamyltranspeptidase (GGT) {GENE:HP1118} - Helicobacter pylori (Campylobacter pylori)

025824

Oxygen-independent coproporphyrinogen III oxidase (HEMN) {GENE:HP1226} - Helicobacter pylori (Campylobacter pylori)

025989

60 kDa inner-membrane protein (GENE:HP1450) - Helicobacter pylori (Campylobacter pylori)

025997

Cytochrome C551 peroxidase {GENE:HP1461} - Helicobacter pylori (Campylobacter pylori)

026019

Proline dipeptidase (PEPQ) {GENE:HP1485} - Helicobacter pylori (Campylobacter pylori)

<u>032633</u>

coli cells. Two proteins of molecular mass identical to the B. subtilis IF2 alpha and -beta were over-expressed and purified using a new three-step ion-exchange chromatography procedure. The N - terminal amino acid sequence of the two proteins was determined and the results confirmed that the two forms were IF2 alpha and -beta, both encoded by the infB gene. The N - terminal amino acid sequence determined for IF2 beta is Met94-Gln-Asn-Asn-Gln-Phe. The presence of methionine at position 94 shows that this form is, in fact, the result of a second translational initiation in infBB.su mRNA, since the codon at amino acid position 94 is GUG, which is the normal codon for valine, but also known to be an initiator codon. This is a new example of the unusual tandem translation in E. coli of an open mRNA reading frame.

Tags: Support, Non-U.S. Gov't

Bacillus subtilis--genetics--GE; Descriptors: *Bacterial cs--GE; *Escherichia coli--genetics--GE; * Peptide Initiation
--genetics--GE; *Translation, Genetic; Amino Acid Sequence; --genetics--GE; Bacterial Proteins--metabolism--ME; Base Sequence; Chromatography, Gel; Cloning, Molecular; DNA, Bacterial; Electrophoresis, Polyacrylamide Gel; Molecular Sequence Data; Open Reading Frames; Peptide Initiation Factors --isolation and purification--IP; Peptide Initiation Factors --metabolism --ME; Prokaryotic Initiation Factor-2

CAS Registry No.: 0 (Bacterial Proteins); 0 (DNA, Bacterial); 0 (Peptide Initiation Factors); 0 (Prokaryotic Initiation Factor-2)

Gene Symbol: infB

Record Date Created: 19921207 Record Date Completed: 19921207

7/9/14

DIALOG(R) File 155:MEDLINE(R)

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92107175 PMID: 1729602

The suil suppressor locus in Saccharomyces cerevisiae encodes a translation factor that functions during tRNA(iMet) recognition of the start codon.

Yoon H J; Donahue T F

Department of Biology, Indiana University, Bloomington 47405. Molecular and cellular biology (UNITED STATES) Jan 199 p248-60, ISSN 0270-7306 Journal Code: 8109087 Jan 1992, 12

Contract/Grant No.: GM32263; GM; NIGMS

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM Record type: Completed Subfile: INDEX MEDICUS

We initiated a genetic reversion analysis at the HIS4 locus to identify components of the translation initiation complex that are important for ribosomal recognition of an initiator codon. Three unlinked suppressor loci, suil, sui2, and SUI3, that restore expression of both HIS4 and HIS4-lacZ in the absence of an AUG initiator codon were identified. In previous studies, it was demonstrated that the sui2 and SUI3 genes encode mutated forms of the alpha and beta subunits, respectively, of eukaryotic translation initiation factor 2 (eIF-2). In this report, we describe the molecular and biochemical characterizations of the suil suppressor locus. The DNA sequence of the SUI1+ gene shows that it encodes a protein of 108 amino acids with a calculated Mr of 12,300. The suil suppressor genes all contain single base pair changes that alter a single amino acid within this 108-amino-acid sequence. suil suppressor strains that are temperature sensitive for growth on enriched medium have altered polysome profiles at the restrictive temperature typical of those caused by alteration of a protein that functions during the translation initiation process. Gene disruption experiments showed that the SUI1+ gene encodes an essential protein, and antibodies directed against the SUI1+ coding region identified a protein with the predicted Mr in a ribosomal salt wash fraction. As observed for sui2 and SUI3 suppression events, protein sequence analysis of His4-beta-galactosidase fusion proteins produced by suil suppression events indicated that a UUG codon is used as the site of translation initiation in the absence of an AUG start codon in HIS4.

Changing the penultimate proline codon 3' to UUG at his4 to a Phe codon (UUC) blocks aminopeptidase cleavage of the amino - terminal amino acid of the His4-beta-galactosidase protein, as noted by the appearance of Met in the first cycle of the Edman degradation reaction. The appearance of Met in the first cycle, as noted, in either a suil or a SUI3 suppressor strain showed that the mechanism of suppression is the same for both suppressor genes and allows the initiator tRNA to mismatch base pair with the UUG codon. This suggests that the Suil gene product performs a function similar to that of the beta subunit of eIF-2 as encoded by the SUI3 gene. However, the Suil gene product does not appear to be a required subunit of eIF-2 on the basis of purification schemes designed to identify the GTP-dependent binding activity of eIF-2 for the initiator tRNA. (ABSTRACT TRUNCATED AT 400 WORDS)

Tags: Support, U.S. Gov't, P.H.S.

Descriptors: Fungal Proteins--genetics--GE; *Genes, Suppressor; * Peptide Initiation Factors --genetics--GE; *RNA, Transfer, Met--genetics--GE; *Saccharomyces cerevisiae--genetics--GE; Amino Acid Sequence; Base Sequence; Blotting, Western; Codon; DNA, Fungal; Eukaryotic Initiation Factor-2--metabolism--ME; Fungal Proteins--metabolism--ME; Genes, Fungal; Molecular Sequence Data; Mutation; Peptide Initiation Factors --metabolism--ME; RNA, Fungal; Restriction Mapping; Sequence Alignment; Translation, Genetic

Molecular Sequence Databank No.: GENBANK/M77514; GENBANK/X51910
CAS Registry No.: 0 (Codon); 0 (DNA, Fungal); 0 (Eukaryotic Initiation Factor-2); 0 (Fungal Proteins); 0 (Peptide Initiation Factors); 0 (RNA, Fungal); 0 (RNA, Transfer, Met); 144814-03-9 (suil protein)

Record Date Created: 19920210
Record Date Completed: 19920210

7/9/15

DIALOG(R) File 155: MEDLINE(R)

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06734952 90360989 PMID: 2390971

Cloning and expression of eukaryotic initiation factor 4B cDNA: sequence determination identifies a common RNA recognition motif.

Milburn S C; Hershey J W; Davies M V; Kelleher K; Kaufman R J

Genetics Institute, Cambridge, MA 02140.

EMBO journal (ENGLAND) Sep 1990, 9 (9) p2783-90, ISSN 0261-4189

Journal Code: 8208664

Contract/Grant No.: GM22135; GM; NIGMS

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM Record type: Completed Subfile: INDEX MEDICUS

Eukaryotic protein synthesis initiation factor 4B (eIF-4B) is an 80,000 dalton polypeptide which is essential for the binding of mRNA to ribosomes. A highly purified preparation of eIF-4B from HeLa cells was subjected to enzymatic cleavage and amino - terminal amino acid sequence analysis. Degenerate oligonucleotide probes were used to isolate a 3851 bp cDNA encoding eIF-4B from a human cDNA library. The DNA encodes a protein comprising 611 residues with a mass of 69,843 daltons. The amino - terminal domain of eIF-4B contains a consensus RNA binding domain present in a number of other RNA binding proteins. Expression of eIF-4B in transfected COS-1 cells yielded a polypeptide which reacted with anti-eIF-4B antiserum and comigrated with purified eIF-4B. Expression of eIF-4B in COS-1 cells resulted in a general inhibition of translation, possibly due to a 50-fold eIF-4B overproduction.

Tags: Animal; Comparative Study; Human; Support, U.S. Gov't, P.H.S.

Descriptors: Peptide Initiation Factors --genetics--GE; Amino Acid Sequence; Base Sequence; Binding Sites; Cell Line; Cloning, Molecular; Gene Expression; Hela Cells--metabolism--ME; Molecular Sequence Data; Oligonucleotide Probes; Peptide Fragments--isolation and purification--IP; Protein Conformation; RNA, Messenger--genetics--GE; RNA, Messenger--metabolism--ME; Sequence Homology, Nucleic Acid; Transfection

CAS Registry No.: 0 (Oligonucleotide Probes); 0 (Peptide Fragments); 0 (Peptide Initiation Factors); 0 (RNA, Messenger); 0 (eIF-4B)

Record Date Created: 19901004
Record Date Completed: 19901004

7/9/16

DIALOG(R) File 155: MEDLINE(R)

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06611439 90236932 PMID: 2110148

Isolation and molecular genetic characterization of the Bacillus subtilis gene (infB) encoding protein synthesis initiation factor 2.

Shazand K; Tucker J; Chiang R; Stansmore K; Sperling-Petersen H U; Grunberg-Manago M; Rabinowitz J C; Leighton T

Institut de Biologie Physico-Chimique, Paris, France.

Journal of bacteriology (UNITED STATES) May 1990, 172 (5) p2675-87, ISSN 0021-9193 Journal Code: 2985120R

Contract/Grant No.: AMO2109; AM; NIADDK

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM Record type: Completed Subfile: INDEX MEDICUS

Western blot (immunoblot) analysis of Bacillus subtilis cell extracts detected two proteins that cross-reacted with monospecific polyclonal raised against Escherichia coli initiation factor 2 alpha (IF2 alpha). Subsequent Southern blot analysis of B. subtilis genomic DNA identified a 1.3-kilobase (kb) HindIII fragment which cross-hybridized with both E. coli and Bacillus stearothermophilus IF2 gene probes. This DNA was cloned from a size-selected B. subtilis plasmid library. The cloned HindIII fragment, which was shown by DNA sequence analysis to encode the N half of the B. subtilis IF2 protein and 0.2 kb of upstream terminal flanking sequence, was utilized as a homologous probe to clone an overlapping 2.76-kb ClaI chromosomal fragment containing the entire IF2 structural gene. The HindIII fragment was also used as a probe to obtain overlapping clones from a lambda gtl1 library which contained additional upstream and downstream flanking sequences. Sequence comparisons between the B. subtilis IF2 gene and the other bacterial homologs from E. coli, B. stearothermophilus, and Streptococcus faecium displayed extensive nucleic acid and protein sequence homologies. The B. subtilis infB gene encodes two proteins, IF2 alpha (78.6 kilodaltons) and IF2 beta (68.2 kilodaltons); both were expressed in B. subtilis and E. coli. These two proteins cross-reacted with antiserum to E. coli IF2 alpha and were able to complement in vivo an E. coli infB gene disruption. Four-factor recombination analysis positioned the infB gene at 145 degrees on the B. subtilis chromosome, between the polC and spcB loci. This location is distinct from those of the other major ribosomal protein and rRNA gene clusters of B. subtilis.

Tags: Comparative Study; Support, Non-U.S. Gov't; Support, U.S. Gov't, Non-P.H.S.; Support, U.S. Gov't, P.H.S.

Descriptors: Bacillus subtilis--genetics--GE; *Genes, Structural, Bacterial; * Peptide Initiation Factors --genetics--GE; Amino Acid Sequence; Antibodies; Base Sequence; Blotting, Western; Cloning, Molecular; Coliphages--genetics--GE; Cross Reactions; DNA, Bacterial--genetics--GE; DNA, Bacterial--isolation and purification--IP; Escherichia coli--genetics--GE; Genetic Complementation Test; Genotype; Molecular Sequence Data; Plasmids; Prokaryotic Initiation Factor-2; Restriction Mapping; Sequence Homology, Nucleic Acid

Molecular Sequence Databank No.: GENBANK/M34836

CAS Registry No.: 0 (Antibodies); 0 (DNA, Bacterial); 0 (Peptide Initiation Factors); 0 (Plasmids); 0 (Prokaryotic Initiation Factor-2)
Record Date Created: 19900605

Record Date Completed: 19900605

7/9/17

DIALOG(R) File 155: MEDLINE(R)

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06271266 89287323 PMID: 2660906

The two forms of the beta-subunit of initiation factor-2 from reticulocyte lysates arise from proteolytic degradation.

Price N T; Nakielny S F; Clark S J; Proud C G

Department of Biochemistry, School of Medical Sciences, University of Bristol, U.K.

Biochimica et biophysica acta (NETHERLANDS) Jul 7 1989, 1008 (2) p177-82, ISSN 0006-3002 Journal Code: 0217513

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM Record type: Completed Subfile: INDEX MEDICUS

Dholakia and Wahba (J. Biol. Chem. (1987) 262, 10164-10170) have reported that preparations of purified initiation factor-2 (eIF-2) from rabbit reticulocytes contain two forms of the beta-subunit. These forms differ in their apparent molecular weights as judged by sodium dodecyl sulphate polyacrylamide gel electrophoresis (SDS-PAGE), and are accordingly termed beta H (heavy, the slower-migrating species, apparent Mr = 54,300) and beta L (light, the faster-migrating species, apparent Mr = 53,100). We confirm that two forms of eIF-2 beta are present in such preparations, but present evidence that the beta L is generated from beta H during the isolation procedure. Crude reticulocyte lysates contain only the beta H species as judged from immunoblotting of reticulocyte proteins resolved by SDS-PAGE using an antiserum against eIF-2 beta. The beta L species appears after the ammonium sulphate fractionation step used early in the purification procedure, but is not apparent if a cocktail of proteinase inhibitors is included in the buffers used during the purification, indicating that it is a proteolytic degradation product generated during the isolation procedure. Cleveland mapping failed to reveal any differences between the two species. Both the beta H and the beta L forms are phosphorylated by casein kinase-2, and, as judged by one- and two-dimensional peptide mapping, at identical sites in each species. Since casein kinase-2 phosphorylates serine-2 in eIF-2 beta, the beta L form must still contain the N - terminal region and is presumably produced by limited proteolysis at the carboxyl terminus of the beta-subunit.

Tags: Animal; Support, Non-U.S. Gov't

Descriptors: Endopeptidases--metabolism--ME; * Peptide Initiation Factors --metabolism--ME; *Proteins--metabolism--ME; Blotting, Western; Chromatography--methods--MT; Electrophoresis, Polyacrylamide Gel; Eukaryotic Initiation Factor-2; Molecular Weight; Peptide Initiation Factors --isolation and purification--IP; Peptide Mapping; Phosphorylation; Protease Inhibitors; Protein Kinases--metabolism--ME; Proteins--isolation and purification--IP; Rabbits

CAS Registry No.: 0 (Eukaryotic Initiation Factor-2); 0 (Peptide Initiation Factors); 0 (Protease Inhibitors); 0 (Proteins)

Enzyme No.: EC 2.7.1.- (casein kinase); EC 2.7.1.37 (Protein Kinases); EC 3.4.- (Endopeptidases)

Record Date Created: 19890810
Record Date Completed: 19890810

DapE {GENE:DAPE} - Helicobacter pylori (Campylobacter pylori)

033991

Nucleosidase homolog (Fragment) - Helicobacter pylori (Campylobacter pylori)

050170

Putative 32.7 kDa protein - Helicobacter pylori (Campylobacter pylori)

068226

Flavodoxin A {GENE:FLDA} - Helicobacter pylori (Campylobacter pylori)

087193

Cb-type cytochrome c oxidase subunit I (EC 1.9.3.1) {GENE:CCON} - Helicobacter pylori (Campylobacter pylori)

087194

Cb-type cytochrome c oxidase subunit II (EC 1.9.3.1) {GENE:CCOO} - Helicobacter pylori (Campylobacter pylori)

087195

Cb-type cytochrome c oxidase subunit IV (EC 1.9.3.1) {GENE:CCOQ} - Helicobacter pylori (Campylobacter pylori)

087196

Cb-type cytochrome c oxidase subunit III (EC 1.9.3.1) {GENE:CCOP} - Helicobacter pylori (Campylobacter pylori)

P94843

Putative glycolate oxidase subunit (EC 1.1.3.15) {GENE:GLCD} - Helicobacter pylori (Campylobacter pylori)

P94847

48 kDa antigen - Helicobacter pylori (Campylobacter pylori)

P94848

29 kDa protein - Helicobacter pylori (Campylobacter pylori)

Q83YF0

NudA (Fragment) {GENE:NUDA} - Helicobacter pylori (Campylobacter pylori)

Q83YF1

NudA (Fragment) {GENE:NUDA} - Helicobacter pylori (Campylobacter pylori)

Q83YF2

NudA (Fragment) {GENE: NUDA} - Helicobacter pylori (Campylobacter

pylori)

Q83YF3

NudA (Fragment) {GENE:NUDA} - Helicobacter pylori (Campylobacter pylori)

Q84DD1

Gamma-glutamyltranspeptidase - Helicobacter pylori (Campylobacter pylori)

Q8GDA0

Conserved hypothetical protein (Fragment) {GENE:HP519} - Helicobacter pylori (Campylobacter pylori)

Q8GDA1

Conserved hypothetical protein (Fragment) {GENE:HP519} - Helicobacter pylori (Campylobacter pylori)

Q8GDA2

Conserved hypothetical protein (Fragment) {GENE:HP519} - Helicobacter pylori (Campylobacter pylori)

Q8GDA3

Conserved hypothetical protein (Fragment) {GENE:HP519} - Helicobacter pylori (Campylobacter pylori)

Q8GDA4

Conserved hypothetical protein (Fragment) {GENE:HP519} - Helicobacter pylori (Campylobacter pylori)

Q8GDA5

Conserved hypothetical protein (Fragment) {GENE:HP519} - Helicobacter pylori (Campylobacter pylori)

Q8GDA6

Conserved hypothetical protein (Fragment) {GENE:HP519} - Helicobacter pylori (Campylobacter pylori)

Q8GDA7

Conserved hypothetical protein (Fragment) {GENE:HP519} - Helicobacter pylori (Campylobacter pylori)

Q8GDA8

Conserved hypothetical protein (Fragment) {GENE:HP519} - Helicobacter pylori (Campylobacter pylori)

Q8GDA9

Conserved hypothetical protein (Fragment) {GENE:HP519} - Helicobacter

pylori (Campylobacter pylori)

Q8RNU2

Heat shock protein B subunit (60 kDa chaperonin) (Protein Cpn60) (groEL protein) {GENE:HSPB} - Helicobacter pylori (Campylobacter pylori)

Q8RNU3

Heat shock protein A subunit (10 kDa chaperonin) (Protein Cpn10) (groES, protein) {GENE:HSPA} - Helicobacter pylori (Campylobacter pylori)

Q8RNU7

20 kDa membrane-associated lipoprotein (Membrane-associated lipoprotein Lpp20) {GENE:LPP20} - Helicobacter pylori (Campylobacter pylori)

Q935I8

26,000 kDa protein (Fragment) - Helicobacter pylori (Campylobacter pylori)

Q9F5N9

Gamma-glutamyltranspeptidase - Helicobacter pylori (Campylobacter pylori)

Q9L7Q1

Flavodoxin {GENE:FLDA} - Helicobacter pylori (Campylobacter pylori)

Q9R2X6

60 kDa major heat shock protein (Fragment) - Helicobacter pylori (Campylobacter pylori)

Q9R4J2

31 kDa major NONSELECTIVE porin protein (Fragment) - Helicobacter pylori (Campylobacter pylori)

Q9R4W4

25 kDa major heat shock protein (Fragment) - Helicobacter pylori (Campylobacter pylori)

Q9R4W5

30 kDa major heat shock protein (Fragment) - Helicobacter pylori (Campylobacter pylori)

Q9R4W6

56 kDa major heat shock protein (Fragment) - Helicobacter pylori (Campylobacter pylori)

Q9R4W7

66 kDa major heat shock protein (Fragment) - Helicobacter pylori (Campylobacter pylori)

Q9R510

60 kDa heat shock protein/groEL homolog (Fragment) - Helicobacter pylori (Campylobacter pylori)

Q9R5L5

HSP62=62 kDa urease-associated heat shock protein (Fragment) - Helicobacter pylori (Campylobacter pylori)

Q950Q6

Lipoprotein signal peptidase A {GENE:LSPA} - Helicobacter pylori (Campylobacter pylori)

Q9X749

HopV protein precursor (27 kDa outer membrane protein) {GENE:HOPV OR OMP27} - Helicobacter pylori (Campylobacter pylori)

Q9ZIQ5

Adhesin-thiol peroxidase TagD {GENE: TAGD} - Helicobacter pylori (Campylobacter pylori)

Q9ZJB7

Putative component of cation transport for CBB3-type oxidase {GENE:FIXI OR JHP1396} - Helicobacter pylori J99 (Campylobacter pylori J99)

Q9ZJF8

Putative cytochrome C peroxidase {GENE:JHP1354} - Helicobacter pylori J99 (Campylobacter pylori J99)

Q9ZK00

Oxygen-independent coproporphyrinogen III oxidase {GENE:HEMN_2 OR JHP1147} - Helicobacter pylori J99 (Campylobacter pylori J99)

Q9ZK95

Gamma-glutamyltranspeptidase {GENE:GGT OR JHP1046} - Helicobacter pylori J99 (Campylobacter pylori J99)

Q9ZKB4

2-keto-3-deoxy-6-phosphogluconate aldolase {GENE:EDA OR JHP1025} - Helicobacter pylori J99 (Campylobacter pylori J99)

Q9ZKD9

Protoporphyrinogen oxidase (GENE: HEMG OR JHP1000) - Helicobacter pylori J99 (Campylobacter pylori J99)

Q9ZL71

Putative probable N-acetylmuramoyl-L-alanine amidase {GENE: AMIA OR

JHP0709} - Helicobacter pylori J99 (Campylobacter pylori J99)

Q9ZLE7

Putative hydantoin utilization {GENE:JHP0633} - Helicobacter pylori J99 (Campylobacter pylori J99)

Q9ZLE8

Putative hydantoin utilization {GENE:JHP0632} - Helicobacter pylori J99 (Campylobacter pylori J99)

Q9ZLK9

Putative 2,3,4,5-tetrahydropyridine-2-carboxylate N-succinyltransferase {GENE:DAPD OR JHP0570} - Helicobacter pylori J99 (Campylobacter pylori J99)

Q9ZLW7

Putative glycolate oxidase {GENE:GLCD OR JHP0459} - Helicobacter pylori J99 (Campylobacter pylori J99)

Q9ZLX5

Putative phospholipase A1 {GENE:PLDA OR JHP0451} - Helicobacter pylori J99 (Campylobacter pylori J99)

Q9ZLZ8

Molybdate ABC transporter, ATP-binding protein {GENE:MODC OR JHP0427} - Helicobacter pylori J99 (Campylobacter pylori J99)

Q9ZLZ9

Molybdate ABC transporter, permease {GENE:MODB OR JHP0426} - Helicobacter pylori J99 (Campylobacter pylori J99)

Q9ZM00

Molybdate ABC transporter, periplasmic-binding protein {GENE:MODA OR JHP0425} - Helicobacter pylori J99 (Campylobacter pylori J99)

Q9ZM03

Oligopeptidase {GENE:PEPF OR JHP0422} - Helicobacter pylori J99 (Campylobacter pylori J99)

Q9ZM36

Putative proline peptidase (GENE:PEPQ OR JHP0387) - Helicobacter pylori J99 (Campylobacter pylori J99)

Q9ZME9

ATP-dependent zinc METALLOPEPTIDASE (GENE:FTSH_1 OR JHP0271) - Helicobacter pylori J99 (Campylobacter pylori J99)

Q9ZMH0

Putative cytochrome C-type biogenesis protein (GENE:CCDA OR JHP0250)

- Helicobacter pylori J99 (Campylobacter pylori J99)

Q9ZMM0

Succinyl-diaminopimelate desuccinylase (GENE: DAPE OR JHP0198) - Helicobacter pylori J99 (Campylobacter pylori J99)

Q9ZMT3

Cytochrome oxidase (CBB3-type) {GENE:FIXP OR JHP0135} - Helicobacter pylori J99 (Campylobacter pylori J99)

Q9ZMT4

Putative cytochrome oxidase (CBB3-type) {GENE:FIXQ OR JHP0134} - Helicobacter pylori J99 (Campylobacter pylori J99)

Q9ZMT5

Cytochrome oxidase (CBB3-type) {GENE:FIXO OR JHP0133} - Helicobacter pylori J99 (Campylobacter pylori J99)

Q9ZMT6

Cytochrome oxidase (CBB3-type) {GENE:FIXN OR JHP0132} - Helicobacter pylori J99 (Campylobacter pylori J99)

Q9ZMU6

L-serine transporter, similar to E. COLI NHAB (GENE:SDAC OR JHP0121)

- Helicobacter pylori J99 (Campylobacter pylori J99)

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